

**REMARKS**

**I. Formal Matters**

Claims 1-24, 28 and 29 are all the claims pending in subject the application. Claims 1-24, 28 and 29 have been examined. Applicants have amended claims 1, 19, 24 and 29. Applicants have added claims 30-32 to further define the scope of the invention.

Applicants thank the Examiner for initialing the three PTO/SB/08 A & B forms filed with Applicants' Information Disclosure Statements of June 16, 2005 indicating that all of the references cited on the form have been considered and made of record. Applicants also thank the Examiner for acknowledging the Applicants' claims of foreign priority under 35 U.S.C. § 119.

Applicants respectfully note that the Examiner has not indicated whether the drawings filed with the application on June 16, 2005 have been accepted or objected to. Thus, Applicants respectfully request that the Examiner indicate the status of the drawings in his next response.

**II. Detailed Action**

**A. Rejection Under 35 U.S.C. 112**

The Examiner has objected to the title of the invention as being non-descriptive. Applicants respectfully assert that in light of the amendment of the title, the Examiner's rejection is now moot.

**B. Rejection Under 35 U.S.C. 102**

The Examiner has rejected claims 1-24, 28 and 29 under 35 U.S.C. § 102(e) as being anticipated by Amano (U.S. Patent Application No. 6,801,414). With regard to independent claim 1, this rejection is respectfully traversed as Amano does not disclose, or even suggest, at least the "pinned ferromagnetic layer comprises **a first composite magnetic layer** configured to

prevent at least one of elements of said anti-ferromagnetic layer from diffusing into said tunnel insulating layer, and materials forming the first composite magnetic layer are **intermixed according to a composite ratio**,” as recited in claim 1.

Instead, Amano discloses **three distinct layers** formed sequentially on the substrate of the device. (See Col. 5, ll. 4-13). Specifically, the TMR (Tunnel Magnetoresistance Effect) device “is provided with an insulator layer 105 inserted between the first magnetization fixed layer 102a and the second magnetization fixed layer 102b.” (See Col. 6, ll. 1-3). Additionally, Amano teaches **a specific order of forming the three distinct layers**, wherein if the order is not obeyed, the device will not function properly. That is, the three distinct layers must be formed sequentially, one on top of the other, and in a specific order for the device to function properly. (See Col. 7, ll. 1-30). In other words, the layers in Amano are formed **independent** of each other. The Examiner appears to contend that the three layers in Amano make up the first composite layer of claim 1. Applicant’s respectfully disagree.

Claim 1 recites “a first composite layer, ...[wherein] the materials forming the first composite magnetic layer are **intermixed according to a composite ratio**.” In contrast, Amano discloses three distinct layers which are formed **independent of each other**. Additionally, the apparatus described in Amano contains the same problems as the related art described in the background section of Applicants’ specification. (See for example, page 7, line 25 through page 9, line 17, (the fourth conventional example)). For at least the above reasons, Applicants respectfully assert that claim 1 is patentable over the prior art.

With regard to dependent claims 2-23, Applicants refer to MPEP § 2131, which states that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Applicants respectfully note that the Examiner has failed to show where each element of claims 2-23 is found in Amano. Claims 2-23 depend from independent claim 1, and are thus allowable at least by virtue of their dependency on claim 1. They are also allowable because of the additional limitations set forth therein.

For example, with regard to dependent claim 3, Amano fails to teach at least a “first composite magnetic layer comprise[d of a] ferromagnetic material that has been not oxidized; and [an] oxide of a material which is easy to combine with oxygen compared with said ferromagnetic material.” Instead, as described above, Amano teaches three distinct layers, independently formed, which make up the TMR device.

Additionally, with regard to dependent claim 5, Amano fails to teach at least a “first composite magnetic layer ... formed from a region of an amorphous phase as a whole or from a region of said amorphous phase and a region of a crystalline phase.” In fact, Amano fails to teach any of the limitations of dependent claims 2-23. As a result, Applicants respectfully assert that claims 2-23 are patentable over the cited prior art.

With regard to independent claim 24, Applicants respectfully assert that claim 24 is allowable at least for reasons analogous to those recited for claim 1 above. As claim 28 depends from independent claim 24, claim 28 is allowable at least by virtue of its dependency on claim 24.

Similarly, with regard to independent claim 29, Applicants respectfully assert that claim 29 is allowable at least for reasons analogous to those recited for claim 1 above.

Applicants also note that in paragraph 4 of the Office Action, the Examiner requests the applicant to identify how the claimed structure of his invention defines over **all** the art of record. However, Applicants' believe that this request is inappropriate as the Examiner has not set forth a prima facie case of anticipation or obviousness with respect to references that are not specifically addressed in this Office Action.

Specifically, the MPEP advises that "in rejecting claims for want of novelty or for obviousness, **the examiner must cite the best references at his or her command**. ... The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified." MPEP § 1.104. Further, "A claim is anticipated **only if** each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." See MPEP 2131, *see also Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Thus, in responding to a rejection " ... the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present **in view of the state of the art disclosed by the references cited** or the objections made." As a result, Applicants' respectfully assert that the response below, provided with regard to the art cited in the Office Action, fully and completely traverses the Examiner's rejection.

### **III. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No.: 10/539,373

Attorney Docket No.: Q88645

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

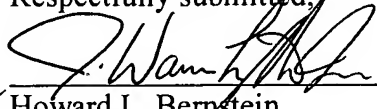
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